WHAT IS CLAIMED IS:

1. A microstructure for steering light, the microstructure comprising:

a substrate;

a first tiltable assembly connected with the substrate, the first tiltable assembly including a reflective coating;

a second tiltable assembly connected with the substrate; and

first and second electrodes connected with the substrate and respectively configured to tilt the first and second tiltable assemblies upon activation such that the first and second tiltable assemblies are interdigitated.

2. The microstructure recited in claim 1 wherein the first tiltable assembly is configured as a cantilever arrangement.

3. The microstructure recited in claim 2 wherein the second tiltable assembly is configured as a torsion-beam arrangement.

4. The microstructure recited in claim 1 wherein the second tiltable assembly is configured as a torsion-beam arrangement.

5. The microstructure recited in claim 1 wherein the reflective coating comprises gold.

6. The microstructure recited in claim 1,

wherein the first tiltable assembly includes:

a first structural linkage connected with the substrate;

a first structural film supported by the first structural linkage and having a plurality of fingers at an end of the first structural film, with the reflective coating on the first structural film; and

wherein the second tiltable assembly includes:

a second structural linkage connected with the substrate; and

a second structural film supported by the second structural linkage and having a plurality of fingers at an end of the second structural film.

7. The microstructure recited in claim 6 wherein the first and second electrodes comprise polysilicon.

8. The microstructure recited in claim 6 wherein the first and second structural films comprise polysilicon.

9. The microstructure recited in claim 6 wherein the first structural linkage has a greater height above the substrate than the second structural linkage.

10. A method for fabricating a microstructure for steering light, the method comprising:

forming a first tiltable assembly on a substrate, the first tiltable assembly including a reflective coating;

forming a second tiltable assembly on the substrate; and

forming first and second electrodes on the substrate, such first and second electrodes being configured to tilt the first and second tiltable assemblies upon activation such that the first and second tiltable assemblies interdigitate.

11. The method recited in claim 10 wherein forming the first tiltable assembly comprises creating a cantilever arrangement.

12. The method recited in claim 11 wherein forming the second tiltable assembly comprises creating a torsion-beam arrangement.

13. The method recited in claim 10 wherein forming the second tiltable assembly comprises creating a torsion-beam arrangement.

14. The method recited in claim 10 wherein the reflective coating comprises gold.

15. The method recited in claim 10,

wherein forming the first tiltable assembly includes:

forming a first structural linkage on the substrate;

forming a first structural film on the first structural linkage, the first structural film having a plurality of fingers at an end of the first structural film, with the reflective coating deposited on the first structural film; and

wherein forming the second tiltable assembly includes:

forming a second structural linkage on the substrate; and

forming a second structural film on the second structural linkage, the second structural film having a plurality of fingers at an end of the second structural film.

16. The method recited in claim 15 wherein forming the first structural linkage comprises forming the first structural linkage on the substrate at a height greater than the second structural linkage.

17. A method for operating an optical switch, the method comprising:

tilting a first assembly by applying a first electrostatic force, the first assembly including:

a first structural linkage connected with a substrate;

a first structural film supported by the first structural linkage and having a plurality of fingers at an end of the first structural film; and

a reflective coating on the first structural film;

tilting a second assembly by applying a second electrostatic force, the second assembly including:

a second structural linkage connected with the substrate; and

a second structural film supported by the second structural linkage and having a plurality of fingers at an end of the second structural film; and

holding the first and second assemblies electrostatically in a fixed position with the fingers of the first and second structural films interdigitated.

18. The method recited in claim 17 wherein the first assembly is configured as a cantilever arrangement.

19. The method recited in claim 18 wherein the second assembly is configured as a torsion-beam arrangement.

20. The method recited in claim 17 wherein the second assembly is configured as a torsion-beam arrangement.

21. The method recited in claim 17 wherein the reflective coating comprises gold.

22. The method recited in claim 17 wherein tilting the first assembly comprises tilting the end of the first structural film having a plurality of fingers towards the

substrate and tilting the second assembly comprises tilting the end of the second structural film having a plurality of fingers away from the structural assembly.

23. A microstructure for steering light, the microstructure comprising:

support means;

tiltable micromirror means connected with the support means;

tiltable snare means connected with the support means; and

means for generating electrostatic forces for tilting the tiltable micromirror means and the tiltable snare means into an interdigitated configuration.

24. The microstructure recited in claim 23 wherein the tiltable micromirror means comprises cantilever means.

25. The microstructure recited in claim 28 wherein the snare means comprises torsion-beam means.

26. The microstructure recited in claim 23 wherein the micromirror means comprises torsion-beam means.

27. A wavelength router for receiving, at an input port, light having a plurality of spectral bands and directing subsets of the spectral bands to respective ones of a plurality of output ports, the wavelength router comprising:

a free-space optical train disposed between the input port and the output ports providing optical paths for routing the spectral bands, the optical train including a dispersive element disposed to intercept light traveling from the input port; and

a routing mechanism having at least one dynamically configurable routing element to direct a given spectral band to different output ports depending on a state of the dynamically configurable routing element, wherein the dynamically configurable routing element includes:

a tiltable micromirror assembly having a micromirror structural film with a plurality of fingers at an end of the micromirror structural film;

a tiltable snare assembly having a snare structural film with a plurality of fingers at an end of the snare structural film; and

a plurality of electrodes configured to tilt the micromirror assembly and snare assembly upon activation such that the fingers of the micromirror structural film and snare structural film interdigitate.

28. The wavelength router recited in claim 27 wherein the micromirror assembly is configured as a cantilever arrangement.

29. The wavelength router recited in claim 28 wherein the snare assembly is configured as a torsion-beam arrangement.